



LZA – CONTINUOUS AUTOMATIC TRAIN CONTROL SYSTEM (ATC)

- User friendly and professional automated operation
- Meets high safety and reliability standards
- Improves traffic flow
- Optimises energy consumption
- Low-cost in comparison with competitive products



General Description

LZA is a modern electronic system designed for automation and securing of train set operation. The system can be used in suburban train operation and in subway and underground systems.

Under the supervision of a driver, LZA can automatically control a train set, adhere to a train schedule (train speed control) and optimise the energy consumption of train operation. In LZA system it is implemented function of unmanned turn of a train.

Basic Technical Description

System receives data from the existing signalling and interlocking equipment.

Based on received information the data regarding speed limit in the current and adjacent track section, number of non-occupied track circuits are assigned to individual sections. Data are transmitted to the mobile part (to the driver's cab) by telegrams via conductor transmitting loops installed between rails.

Upon request the automatic train control can be combined with manual control.

Improper interventions by the operator are eliminated automatically.

- Automatic Train Operation (ATO) of ACBM3 type – secures the automation of operation and other functions.

A system such conceived (ATP/ATO) represents a developed control system of the ATC (Automatic Train Control) class. System ensures failsafe, smooth and efficient train movements operated by a single driver whose work is considerably simplified.

The system is equipped with a common data transmission channel through which data are transmitted from stationary equipment on the track to vehicles.

All transmitted data for both ATP and ATO are secured. ATP subsystem can also be operated separately.

Headway can be reduced to 90 seconds.

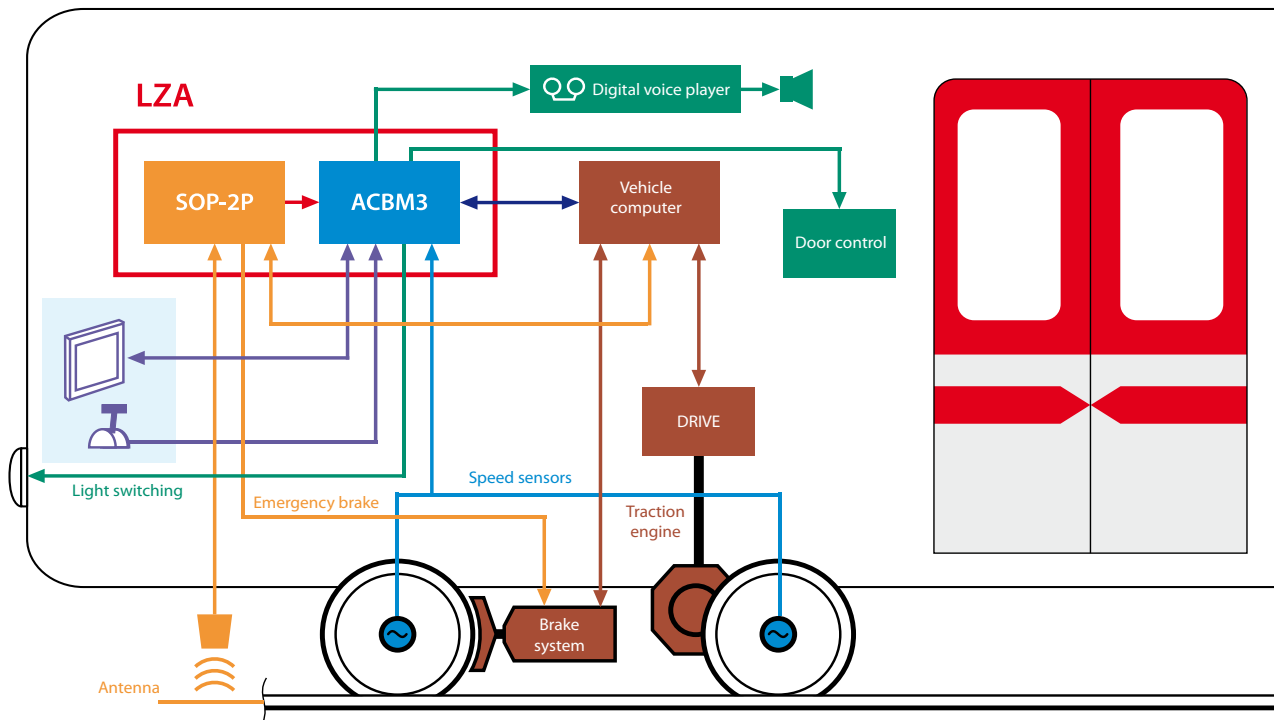
LZA system consists of two subsystems:

- Automatic Train Protection (ATP) of SOP-2P type – secures operational safety

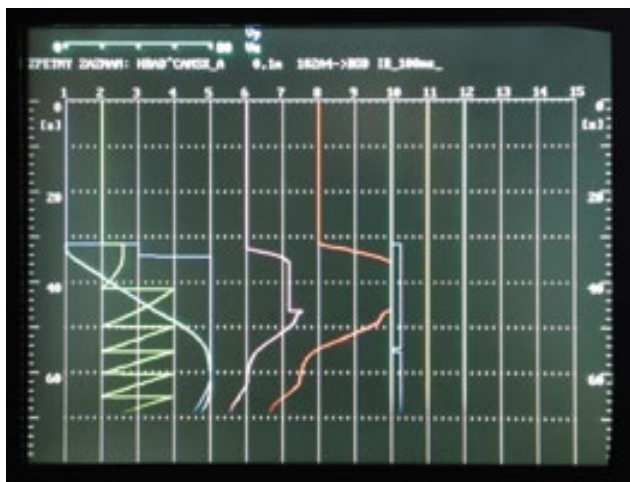


Display of driving mode

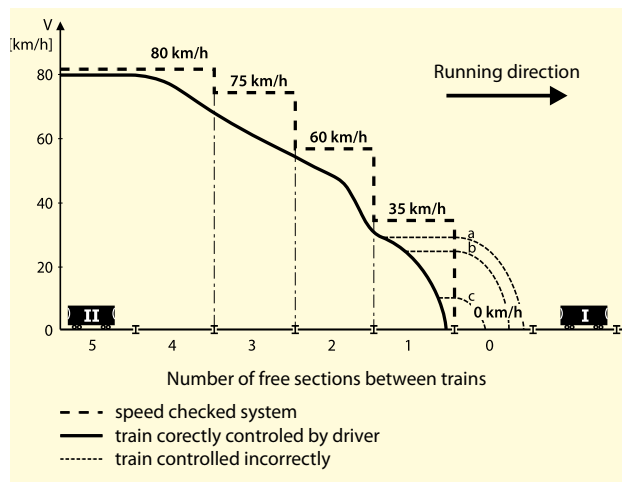




Basic scheme of LZA system



Backward record of operational data



Principle of fail-safe train control